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SYSTEMS AND METHODS FOR CONTROLLING TEMPERATURE OF SMALL VOLUMES

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Abstract

Systems and methods for controlling the temperature of small volumes such as yoctoliter volumes, are described. The systems include one or more plasmonic nanostructures attached at or near a nanopore. Upon excitation of the plasmonic nanostructures, such as for example by exposure to laser light, the nanoparticles are rapidly heated thereby causing a change in the ionic conductance along the nanopore. The temperature change is determined from the oonic conductance. These temperature changes can be used to control rapid thermodynamic changes in molecular analytes as they interact with the nanopore.

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Citations

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References

- 12-034Application

Status of Availability

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